

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A method for viewing seismic data **associated with a seismic area of interest, said method** comprising:
 - a. generating a prestack seismic display having a plurality of CMP gathers, wherein each gather has constant spatial coordinates associated therewith;
 - b. for each CMP gather, defining a time or depth window around seismic data of interest **to generate a multidimensional CMP gather utilizing at least four dimensions;**
 - c. **plotting a seismic field representation based on the seismic area of interest; and**
 - d. **overlaying said multidimensional CMP gather on the seismic field representation by** plotting said window in plan view using the spatial coordinates associated with said window ~~to generate a multidimensional plan view, wherein said multidimensional plan view utilizes at least four dimensions.~~
2. (currently amended) The method of Claim 1 ~~further comprising the step of overlaying the multidimensional plan view on a second~~ **wherein said** seismic **field** representation **is derived from the seismic data.**
3. (currently amended) The method of Claim ~~2~~ 1 wherein the ~~second~~ seismic **field** representation is a contour map.
4. (currently amended) The method of Claim 1 further comprising the step of inserting the multidimensional ~~plan view~~ **CMP gather** into an immersive environment.

5. (currently amended) A method for viewing seismic data related to a lithologic structure comprising:
- generating a poststack seismic display having a plurality of poststack traces around a point of interest, wherein each poststack trace has a constant spatial coordinates associated therewith;
 - for each poststack trace, defining a time or depth window around seismic data of interest to generate a multi-dimensional poststack trace;
 - plotting said lithographic structure in the form of at two fields associated therewith; and
 - d. overlaying said fields with said multi-dimensional poststack trace by plotting said window in plan view using the spatial coordinates associated with said window to generate a multidimensional plan view, wherein said multidimensional plan view utilizes at least four dimensions.
6. (original) The method of Claim 1 further comprising the steps of analyzing trends in the data segments by viewing multiple segments in spatial relationship to one another.
7. (deleted) ~~A method for viewing seismic data having a plurality of dimensions associated therewith, said method comprising:~~
- ~~a. presenting the seismic data in a multidimensional plan view, wherein said multidimensional plan view utilizes at least four dimensions.~~
8. (currently amended) The method of Claim 7 1 wherein said ~~multidimensional plan view~~ utilizes at least four dimensions comprise an x-dimension, a y-dimension, a depth dimension and a fourth dimension for the seismic data multidimensional CMP gather and wherein said fourth dimension is based on another seismic attribute of the CMP gather seismic data.
9. (original) The method of Claim 5 further comprising the steps of analyzing trends in the data segments by viewing multiple segments in spatial relationship to one another.